Complete Summary

GUIDELINE TITLE

Antenatal care: routine care for the healthy pregnant woman.

BIBLIOGRAPHIC SOURCE(S)

National Collaborating Centre for Women's and Children's Health. Antenatal care: routine care for the healthy pregnant woman. London: RCOG Press; 2003 Oct. 286 p. [631 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Pregnancy

Note: Although the guideline addresses screening for many of the complications of pregnancy, it does not include information on the investigation and appropriate ongoing management of these complications if they arise in pregnancy (for example, the management of preeclampsia, fetal anomalies, and multiple pregnancies).

Any aspect of intrapartum and postpartum care has not been included in this guideline. This includes preparation for birth and parenthood, risk factor assessment for intrapartum care, breastfeeding, and postnatal depression. These

topics will be addressed in future National Institute for Clinical Excellence (NICE) guidelines on intrapartum and postpartum care.

GUIDELINE CATEGORY

Counseling
Evaluation
Management
Risk Assessment
Screening
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Obstetrics and Gynecology

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Nurses
Patients
Physicians

GUIDELINE OBJECTIVE(S)

- To offer information on best practice for baseline clinical care of all pregnancies and comprehensive information on the antenatal care of the healthy woman with an uncomplicated singleton pregnancy
- To provide evidence-based information for clinicians and pregnant women to make decisions about appropriate treatment in specific circumstances

TARGET POPULATION

Pregnant women with uncomplicated singleton pregnancy

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnostic Investigations

1. Maternal weight and height, body mass index (BMI)
2. Gestational age assessment including last menstrual period (LMP) and ultrasound
3. Serum screening for Down's syndrome
    - Nuchal translucency (NT)
    - The combined test (nuchal translucency, human chorionic gonadotrophin [hCG], and plasma protein a [PAPP-A])
    - The triple test (hCG, alpha-fetoprotein [AFP], and unconjugated oestriol [uE3])

    - The quadruple test (hCG, AFP, uE3, inhibin A)
    - The integrated test (NT, PAPP-A + hCG, AFP, uE3, inhibin A)
    - The serum integrated test (PAPP-A + hCG, AFP, uE3, inhibin A)
4. Check blood group for rhesus D (RhD) status
5. Screening for anaemia and red-cell alloantibodies
6. Psychiatric screening
7. Screening for domestic violence
8. Breast and pelvic examinations (not recommended routinely)
9. Screening for genital mutilation
10. Screening for infections:
    - Bacteriuria
    - Asymptomatic bacterial vaginosis (not recommended)
    - Chlamydia trachomatis (not recommended routinely, though policy may change)
    - Cytomegalovirus (not recommended)
    - Hepatitis B virus (HBV)
    - Hepatitis C virus (not recommended routinely)
    - Human immunodeficiency virus (HIV)
    - Rubella susceptibility
    - Streptococcus group B (not recommended routinely)
    - Syphilis
    - Toxoplasmosis (not recommended routinely)
11. Measurement of haemoglobin level
12. Screening for clinical conditions:
    - Gestational diabetes mellitus (not recommended routinely)
    - Preeclampsia (blood pressure and urine sample for proteinuria)
    - Preterm birth (cervical assessment by transvaginal ultrasound and measurement of fetal fibronectin levels)
    - Placenta praevia (anomaly, transabdominal, and transvaginal scans)
13. Ultrasound screening for structural anomalies
14. Measure and plot symphysis-fundal height
15. Abdominal palpation for fetal presentation
16. Auscultation of fetal heart (not recommended routinely)
17. Cardiotocography (not recommended routinely)
18. Umbilical and uterine artery Doppler ultrasound (not recommended routinely)

Treatment/Management

1. Dietary supplementation with folic acid
2. Iron supplementation (not recommended routinely)
3. Avoidance of Vitamin A supplementation (because of risk of teratogenicity)
4. Vitamin D (not recommended routinely)
5. Ginger
6. P6 acupressure
7. Antihistamines
8. Antacids
9. Diet modification such as bran or wheat fibre supplementation
10. Haemorrhoid creams
11. Compression stockings
12. Topical imidazole
13. Induction of labour
14. External cephalic version (ECV)

General Management

1. Providing information on topics such as diet and lifestyle considerations, pregnancy care services available, maternity benefits, and sufficient information to enable informed decision making about screening tests
2. Providing information on how to reduce the risk of listeriosis and salmonella infections
3. Providing information on exercise, sexual intercourse, alcohol use, smoking, cannabis use, air travel, car travel, and traveling abroad during pregnancy
4. Providing information on exercising in water, massage therapy, and group or individual back care classes

MAJOR OUTCOMES CONSIDERED

- Maternal satisfaction
- Perinatal mortality
- Maternal outcomes
- Infant outcomes
- Interventions during labour
- Signs and symptoms of pregnancy
- Birth weight
- Sensitivity and specificity for diagnostic tests
- False positive rates of diagnostic tests
- Incidence of preterm birth

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Literature Search Strategy

The aim of the literature review was to identify and synthesise relevant evidence within the published literature, in order to answer the specific clinical questions. Searches were performed using generic and specially developed filters, relevant Medical Subject Headings (MeSH) terms and free-text terms. Details of all literature searches are available upon application to the National Collaborating Centre for Women's and Children's Health (NCC-WCH).

Guidelines by other development groups were searched for on the National Guidelines Clearinghouse database, the TRIP database, and OMNI service on the Internet. The reference lists in these guidelines were checked against the searches to identify any missing evidence.

Searches were carried out for each topic of interest. The Cochrane Database of Systematic Reviews, up to Issue 3, 2003, was searched to identify systematic

reviews of randomized controlled trials, with or without meta-analyses and randomised controlled trials. The electronic database, MEDLINE (Ovid version for the period January 1966 to April 2003), EMBASE (Ovid version from January 1980 to April 2003), MIDIRS (Midwives Information and Resource Service), CINAHL (Cumulative Index to Nursing and Allied Health Literature), the British Nursing Index (BNI), and PsychInfo were also searched.

The Database of Abstracts and Reviews of Effectiveness (DARE) was searched. Reference lists of nonsystematic review articles and studies obtained from the initial search were reviewed and journals in the Royal College of Obstetricians and Gyaencologists (RCOG) library were hand-searched to identify articles not yet indexed. There was no systematic attempt to search the "grey literature" (conferences, abstracts, theses and unpublished trials).

A preliminary scrutiny of titles and abstracts was undertaken and full papers were obtained if they appeared to address the Guideline Development Group´s (GDG) question relevant to the topic. Following a critical review of the full version of the study, articles not relevant to the subject in question were excluded. Studies that did not report on relevant outcomes were also excluded. Submitted evidence from stakeholders was included where the evidence was relevant to the GDG clinical question and when it was either better or equivalent in quality to the research identified in the literature searches.

The economic evaluation included a search of:

- National Health Service Economic Evaluations Database (NHS EED)
- www.ohe-heed.com
- Cochrane Database of Systematic Reviews, Issue 3, 2003
- MEDLINE January 1966 to April 2003
- EMBASE 1980 to April 2003.

Relevant experts in the field were contacted for further information.

The search strategies were designed to find any economic study related to specific antenatal screening programmes. Abstracts and database reviews of papers found were reviewed by the health economist and were discarded if they appeared not to contain any economic data or if the focus of the paper did not relate to the precise topic or question being considered (i.e., to screening strategy alternatives that were not relevant to this guideline). Relevant references in the bibliographies of reviewed papers were also identified and reviewed. These were assessed by the health economists against standard criteria.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Evidence Categories

1a: Evidence obtained from systematic review and meta-analysis of randomised controlled trials

1b: Evidence obtained from at least one randomized controlled trial

2a: Evidence obtained from at least one well-designed controlled study without randomization

2b: Evidence obtained from at least one other type of well-designed quasi-experimental study

3: Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies, or case studies

4: Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

METHODS USED TO ANALYZE THE EVIDENCE

Meta-Analysis
Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Clinical Effectiveness

For all the subject areas, evidence from the study designs least subject to sources of bias was included. Where possible, the highest levels of evidence were used, but all papers were reviewed using established guides (see below). Published systematic reviews or meta-analyses were used if available. For subject areas where neither was available, other appropriate experimental or observational studies were sought.

Identified articles were assessed methodologically and the best available evidence was used to form and support the recommendations. The highest level of evidence was selected for each clinical question. Using the evidence-level structure shown in Table 1.1 of the original guideline document and defined above in the "Rating Scheme for the Strength of the Evidence" field, the retrieved evidence was graded accordingly.

Hierarchy of Evidence

The clinical question dictates the highest level of evidence that should be sought. For issues of therapy or treatment, the highest level of evidence is meta-analyses of randomized controlled trials or randomised controlled trials (RCTs) themselves. This would equate to a grade A recommendation.

For issues of prognosis, a cohort study is the best level of evidence available. The best possible level of evidence would equate to a grade B recommendation. It should not be interpreted as an inferior grade of recommendation, as it represents the highest level of evidence attainable for that type of clinical question.

For diagnostic tests, test evaluation studies examining the performance of the test were used if the efficacy of the test was required. Where an evaluation of the effectiveness of the test on management and outcome was required, evidence from RCTs or cohort studies was sought.

All retrieved articles have been appraised methodologically using established guides. Where appropriate, if a systematic review, meta-analysis or RCT existed in relation to a topic, studies of a weaker design were not sought.

The evidence was synthesised using qualitative methods. These involved summarising the content of identified papers in the form of evidence tables and agreeing brief statements that accurately reflect the relevant evidence. Quantitative techniques (meta-analyses) were performed if appropriate and necessary.

For the purposes of this guideline, data are presented as relative risk (RR) where relevant (i.e., in RCTs and cohort studies) or as odds ratios (OR) where relevant (i.e., in systematic reviews of RCTs). Where these data are statistically significant they are also presented as numbers needed to treat (NNT), if relevant.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)
Expert Consensus (Nominal Group Technique)
Informal Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Forming and Grading Recommendations

The Guideline was developed by a multiprofessional and lay working group (the Guideline Development Group) convened by the National Collaborating Centre for Women's and Children's Health (NCC-WCH). Membership included:

- two consumers
- two general practitioners
- two midwives
- two obstetricians
- a radiographer
- a neonatologist
- a representative from the Confidential Enquiries from Maternal Deaths (CEMD)

Staff from NCC-WCH provided methodological support for the guideline development process, undertook the systematic searches, retrieval, and appraisal of the evidence, and wrote successive drafts of the document.

The Guideline Development Group (GDG) was presented with the summaries (text and evidence tables) of the best available research evidence to answer their questions. Recommendations were based on, and explicitly linked to, the evidence that supported them. A recommendation's grade may not necessarily reflect the importance attached to the recommendation. For example the GDG felt that the principles of woman-centred care that underpin this guideline (please refer to chapter 3 of the original guideline document) are particularly important but some of these recommendations receive only a D grade or good practice point (GPP).

The Group worked where possible on an informal consensus basis. Formal consensus methods (modified Delphi techniques or nominal group technique) were employed if required (e.g., grading recommendations or agreeing audit criteria).

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grading of Recommendations

A: Directly based on level I evidence

B: Directly based on level II evidence or extrapolated recommendation from level I evidence

C: Directly based on level III evidence or extrapolated recommendation from either level I or II evidence

D: Directly based on level IV evidence or extrapolated recommendation from either level I, II or III evidence

Good practice point (GPP): The view of the Guideline Development Group (GDG)

National Institute for Clinical Excellence (NICE) 2002: Recommendation taken from the NICE Technology Appraisal.

COST ANALYSIS

Health Economics

In antenatal care, there is a relatively large body of economic literature that has considered the economic costs and consequences of different screening programmes and considered the organisation of antenatal care. The purpose of including economic evidence in a clinical guideline is to allow recommendations to be made not just on the clinical effectiveness of different forms of care, but on the cost effectiveness as well. The aim is to produce guidance that uses scarce health service resources efficiently; that is, providing the best possible care within resource constraints.

The economic evidence is focused around the different methods of screening, although some work has been undertaken to examine the cost effectiveness of different patterns of antenatal care (the number of antenatal appointments) and to explore women's preferences for different aspects of their antenatal care. The economic evidence presented in this guideline is not a systematic review of all the economic evidence around antenatal care. It was decided that the health economic input into the guideline should focus on specific topics where the guideline development group (GDG) thought that economic evidence would help them to inform their decisions. This approach was made on pragmatic grounds (not all the economic evidence could be reviewed with the resources available) and on the basis that economic evidence should not be based only on the economic literature, but should be consistent with the clinical effectiveness evidence presented in the guideline. Some of the economic evaluation studies did not address the specific alternatives (say, for screening) that were addressed in the guideline. Therefore, for each of the specific topic areas where the economic evidence was reviewed, a simple economic model was developed in order to present the GDG with a coherent picture of the costs and consequences of the decisions based on the clinical and economic evidence. The role of the health economist in this guideline was to review the literature in these specific areas and obtain cost data considered to be the closest to current UK opportunity cost (the value of the resources used, rather than the price or charge).

The approach adopted for this guideline was for the health economic analysis to focus on specific areas. Topics for economic analysis were selected on the following basis by the GDG.

- Does the proposed topic have major resource implications?
- Is there a change of policy involved?
- Are there sufficient data of adequate quality to allow useful review or modelling?
- Is there a lack of consensus among clinicians?
- Is there a particular area with a large amount of uncertainty?

Where the above answers were "yes," this indicated that further economic analysis including modelling is more likely to be useful.

The GDG identified six areas where the potential impact of alternative strategies could be substantial and where the health economics evidence should focus. These were: screening for asymptomatic bacteriuria, screening for group B streptococcus, screening for syphilis, screening for sickle cell and thalassaemia, ultrasound screening for structural abnormalities, and Down's syndrome screening.

For all these topics, a review of the economic evidence was undertaken, followed by simple economic modelling of the cost effectiveness in England and Wales of different strategies.

The review of the economic evaluation studies included cost-effectiveness studies (only those where an incremental cost-effectiveness ratio had been determined or could be determined from the data presented). The topic had to focus on the appropriate alternatives (the appropriate clinical question), preferably able to be generalised to the England and Wales setting, and therefore be useful in

constructing a simple decision model. The review of the evidence included cost-effectiveness studies, cost-consequence studies (cost of present and future costs only), and high-quality systematic reviews of the evidence. A narrative review of all the evidence is not presented in the main guideline. Appendix 2 of the original guideline document shows the way the models have been constructed, the economic and clinical parameters incorporated into each model, the sources of data that have been used (cost data and clinical data), the results of the baseline model, and the sensitivity analysis.

Evidence on the cost consequences associated with alternative screening strategies was obtained from various published sources that addressed these issues. The purpose was to obtain good quality cost data judged by the health economist to be as close as possible to the true opportunity cost of the intervention (screening programme).

The key cost variables considered were:

- The cost of a screening programme (the cost of different screening interventions and the cost of expanding and contracting a screening programme)
- The cost of treatment of women found to be carriers of a disease
- The cost of any adverse or non-therapeutic effects of screening or treatment to the woman
- The cost of the consequences of screening and not screening to the fetus and infant, including fetal loss, ending pregnancy, and the lifetime costs of caring for infants born with disabilities

Cost data not available from published sources were obtained from the most up-to-date National Health Service (NHS) reference cost price list. Some cost data could not be obtained from published sources or from NHS reference costs and therefore consensus methods were used in the GDG to obtain an indicative estimate of the likely costs. The range of sources of cost data are set out in the appendix that explains the methodology adopted to construct each of the economic models created for this guideline.

In some cases (i.e., for screening for asymptomatic bacteriuria and for haemoglobinopathies), the economic modelling work began and had to be abandoned due to lack of data of the effectiveness of the different screening options. Appendix 2 of the original guideline document provides some discussion of these models that could not be completed in the guideline and areas for future research.

Limitations of the Economic Evidence in this Guideline

Economic analyses have been undertaken alongside a wide range of antenatal screening procedures. A systematic review of antenatal screening was undertaken in 2001. This review found that many of the studies identified were of poor quality, since they did not consider the effects of screening on future health (of mother and baby) but only costs averted by a screening programme.

In this guideline, the costs of screening and the costs of the benefits or harm of screening have been considered simultaneously where possible (i.e., where the

data exist). It has not been possible to include many of the consequences of a screening programme because the data do not exist on these less straightforward or measurable outcomes (such as the benefit foregone from ending pregnancy).

The economic analysis of screening methods in the guideline has not been able to consider the following:

- The value to the woman of being given information about the health of her future child
- The value of being able to plan appropriate services for children who are born with disabilities
- The value of a life of a child born with disability, to the child, to the family, and to society in general
- The value to a woman of being able to choose whether to end a pregnancy
- The value of a life foregone as a consequence of screening

The cost-effectiveness studies reviewed for this guideline had narrowly defined endpoints; for example, a case of birth defect detected and subsequently averted as a result of a screening test. Some of the studies have considered the cost consequences of avoiding the birth of an infant with severe disabilities and their long-term care costs. The value of future life foregone (of a healthy or a disabled infant's life) due to screening has not been explicitly considered in any of the economic evidence of antenatal screening. Since economic evaluation should always consider the costs and benefits of an intervention in the widest possible sense, this could be seen as a limitation of the analysis presented in this guideline. The consequences of this are discussed in Appendix 2 of the original guideline document.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline has been developed in accordance with the National Institute for Clinical Excellence (NICE) guideline development process. This has included the opportunity for registered stakeholders to comment on the scope of the guideline, the first draft of the full and summary guidelines, and the second draft of all versions of the guideline. In addition, the first draft was reviewed by nominated individuals with an interest in antenatal care. All drafts, comments, and responses were also reviewed by the independent Guideline Review Panel established by NICE.

The comments made by the stakeholders, peer reviewers, and the NICE Guideline Review Panel were collated and presented anonymously for consideration by the Guideline Development Group (GDG). All comments were considered systematically by the Group and the resulting actions and responses were recorded.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Evidence categories (1a-4) and recommendation grades (A-D) are defined at the end of the "Major Recommendations" field.

In addition to evidence-based recommendations, the guideline development group (GDG) also identifies good practice points (GPP) and recommendations taken from the National Institute for Clinical Excellence (NICE) technology appraisal (NICE 2002).

Woman-Centred Care and Informed Decision Making

Antenatal education

A - Pregnant women should be offered opportunities to attend antenatal classes and have written information about antenatal care.

C - Pregnant women should be offered evidence-based information and support to enable them to make informed decisions regarding their care. Information should include details of where they will be seen and who will undertake their care. Addressing women's choices should be recognized as being integral to the decision-making process.

C - At the first contact, pregnant women should be offered information about the pregnancy-care services and options available, lifestyle considerations, including dietary information; and screening tests.

D - Pregnant women should be informed about the purpose of any screening test before it is performed. The right of a woman to accept or decline a test should be made clear.

D - At each antenatal appointment, midwives and doctors should offer consistent information and clear explanations and should provide pregnant women with an opportunity to discuss issues and ask questions.

GPP - Communication and information should be provided in a form that is accessible to pregnant women who have additional needs, such as those with physical, cognitive, or sensory disabilities and those who do not speak or read English.

Provision and Organisation of Care

Who provides care?

A - Midwife- and general practitioner (GP)-led models of care should be offered for women with an uncomplicated pregnancy. Routine involvement of obstetricians in the care of women with an uncomplicated pregnancy at scheduled times does

not appear to improve perinatal outcomes compared with involving obstetricians when complications arise.

Continuity of care

A - Antenatal care should be provided by a small group of carers with whom the woman feels comfortable. There should be continuity of care throughout the antenatal period.

D - A system of clear referral paths should be established so that pregnant women who require additional care are managed and treated by the appropriate specialist teams when problems are identified.

Where should antenatal appointments take place?

C - Antenatal care should be readily and easily accessible to all women and should be sensitive to the needs of individual women and the local community.

GPP - The environment in which antenatal appointments take place should enable women to discuss sensitive issues such as domestic violence, sexual abuse, psychiatric illness, and illicit drug use.

Documentation of care

A - Structured maternity records should be used for antenatal care.

A - Maternity services should have a system in place whereby women carry their own case notes.

GPP - A standardised, national maternity record with an agreed minimum data set should be developed and used. This will help carers to provide the recommended evidence-based care to pregnant women.

Frequency of antenatal appointments

B - A schedule of antenatal appointments should be determined by the function of the appointments. For a woman who is nulliparous with an uncomplicated pregnancy, a schedule of ten appointments should be adequate. For a woman who is parous with an uncomplicated pregnancy, a schedule of seven appointments should be adequate.

D - Early in pregnancy all women should receive appropriate written information about the likely number, timing and content of antenatal appointments associated with different options of care and be given an opportunity to discuss this schedule with their midwife or doctor.

D - Each antenatal appointment should be structured and have focused content. Longer appointments are needed early in pregnancy to allow comprehensive assessment and discussion. Wherever possible, appointments should incorporate routine tests and investigations to minimize inconvenience to women.

Gestational age assessment: last menstrual period (LMP) and ultrasound

A - Pregnant women should be offered an early ultrasound scan to determine gestational age (in lieu of LMP for all cases) and to detect multiple pregnancies. This will ensure consistency of gestational age assessments, improve the performance of mid-trimester serum screening for Down's syndrome, and reduce the need for induction of labour after 41 weeks.

GPP - Ideally, scans should be performed between 10 and 13 weeks and crown–rump length measurement used to determine gestational age. Pregnant women who present at or beyond 14 weeks' gestation should be offered an ultrasound scan to estimate gestational age using head circumference or biparietal diameter.

What should happen at antenatal appointments?

The assessment of women who may or may not need additional clinical care during pregnancy is based on identifying those in whom there are any maternal or fetal conditions associated with an excess of maternal or perinatal death or morbidity. While this approach may not identify many of the women who go on to require extra care and will also categorise many women who go on to have normal uneventful births as "high risk," ascertainment of risk in pregnancy remains important as it may facilitate early detection to allow time to plan for appropriate management.

The needs of each pregnant woman should be assessed at the first appointment and reassessed at each appointment throughout pregnancy because new problems can arise at any time. Additional appointments should be determined by the needs of the pregnant woman, as assessed by her and her care givers, and the environment in which appointments take place should enable women to discuss sensitive issues. Reducing the number of routine appointments will enable more time per appointment for care, information giving, and support for pregnant women.

The schedule below, which has been determined by the purpose of each appointment, presents the recommended number of antenatal care appointments for women who are healthy and whose pregnancies remain uncomplicated in the antenatal period: ten appointments for nulliparous women and seven for parous women.

<u>First appointment(s)</u>

The first appointment needs to be earlier in pregnancy (prior to 12 weeks) than may have traditionally occurred and, because of the large volume of information needs in early pregnancy, two appointments may be required. At the first (and second) antenatal appointment:

- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by written information (on topics such as diet and lifestyle considerations, pregnancy care services available, maternity benefits and sufficient information to enable informed decision making about screening tests).

- Identify women who may need additional care (refer to the algorithm and section 1.2 of the original guideline document or the "Qualifying Statements" section of the complete summary) and plan pattern of care for the pregnancy.
- Check blood group and rhesus D (RhD) status.
- Offer screening for anaemia, red-cell alloantibodies, hepatitis B virus (HBV), human immunodeficiency virus (HIV), rubella susceptibility, and syphilis.
- Offer screening for asymptomatic bacteriuria.
- Offering screening for Down's syndrome.
- Offer early ultrasound scan for gestational age assessment.
- Offer ultrasound screening for structural anomalies (20 weeks).
- Measure body mass index (BMI) and blood pressure and test urine for proteinuria.

After the first (and possibly second) appointment, for women who choose to have screening, the following tests should be arranged before 16 weeks of gestation (except serum screening for Down's syndrome, which may occur at up to 20 weeks of gestation):

- Blood tests (for checking blood group and RhD status and screening for anaemia, red-cell alloantibodies, HBV, HIV, rubella susceptibility, and syphilis)
- Urine tests (to check for proteinuria and screen for asymptomatic bacteriuria)
- Ultrasound scan to determine gestational age using:
    - crown–rump measurement if performed at 10 to 13 weeks
    - biparietal diameter or head circumference at or beyond 14 weeks
- Down's syndrome screening using:
    - nuchal translucency at 11 to 14 weeks
    - serum screening at 14 to 20 weeks.

<u>16 weeks</u>

The next appointment should be scheduled at 16 weeks to:

- Review, discuss, and document the results of all screening tests undertaken; reassess planned pattern of care for the pregnancy, and identify women who need additional care (refer to the algorithm and section 1.2 of the original guideline document or the "Qualifying Statements" section of the complete summary).
- Investigate a haemoglobin level of less than 11 g/dL and consider iron supplementation if indicated.
- Measure blood pressure and test urine for proteinuria.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.

<u>18–20 weeks</u>

At 18–20 weeks, if the woman chooses, an ultrasound scan should be performed for the detection of structural anomalies. For a woman whose placenta is found to extend across the internal cervical os at this time, another scan at 36 weeks should be offered and the results of this scan reviewed at the 36-week appointment.

25 weeks

At 25 weeks of gestation, another appointment should be scheduled for nulliparous women. At this appointment:

- Measure and plot symphysis–fundal height.
- Measure blood pressure and test urine for proteinuria.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.

28 weeks

The next appointment for all pregnant women should occur at 28 weeks. At this appointment:

- Offer a second screening for anaemia and atypical red-cell alloantibodies.
- Investigate a haemoglobin level of less than 10.5 g/dl and consider iron supplementation, if indicated.
- Offer anti-D to rhesus-negative women.
- Measure blood pressure and test urine for proteinuria.
- Measure and plot symphysis–fundal height.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.

31 weeks

Nulliparous women should have an appointment scheduled at 31 weeks to:

- Measure blood pressure and test urine for proteinuria.
- Measure and plot symphysis–fundal height.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.
- Review, discuss, and document the results of screening tests undertaken at 28 weeks; reassess planned pattern of care for the pregnancy, and identify women who need additional care (refer to the algorithm and section 1.2 of the original guideline document or the Qualifying Statements of the complete summary).

34 weeks

At 34 weeks, all pregnant women should be seen in order to:

- Offer a second dose of anti-D to rhesus-negative women.
- Measure blood pressure and test urine for proteinuria.
- Measure and plot symphysis–fundal height.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.

- Review, discuss, and document the results of screening tests undertaken at 28 weeks; reassess planned pattern of care for the pregnancy, and identify women who need additional care (refer to the algorithm and section 1.2 of the original guideline document or the Qualifying Statements of the complete summary).

36 weeks

At 36 weeks, all pregnant women should be seen again to:

- Measure blood pressure and test urine for proteinuria.
- Measure and plot symphysis–fundal height.
- Check position of baby.
- For women whose babies are in the breech presentation, offer external cephalic version (ECV).
- Review ultrasound scan report if placenta extended over the internal cervical os at previous scan.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.

38 weeks

Another appointment at 38 weeks will allow for:

- Measurement of blood pressure and urine testing for proteinuria
- Measurement and plotting of symphysis–fundal height
- Information giving, with an opportunity to discuss issues and ask questions; verbal information supported by antenatal classes and written information.

40 weeks

For nulliparous women, an appointment at 40 weeks should be scheduled to:

- Measure blood pressure and test urine for proteinuria.
- Measure and plot symphysis–fundal height.
- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by antenatal classes and written information.

41 weeks

For women who have not given birth by 41 weeks:

- A membrane sweep should be offered.
- Induction of labour should be offered.
- Blood pressure should be measured and urine tested for proteinuria.
- Symphysis–fundal height should be measured and plotted.
- Information should be given, with an opportunity to discuss issues and ask questions; verbal information supported by written information.

General

Throughout the entire antenatal period, healthcare providers should remain alert to signs or symptoms of conditions which affect the health of the mother and fetus, such as domestic violence, preeclampsia, and diabetes.

An outline of care at each appointment is shown on the algorithm of the original guideline document.

Lifestyle Considerations

Working during pregnancy

C - Pregnant women should be informed of their maternity rights and benefits.

D - The majority of women can be reassured that it is safe to continue working during pregnancy. Further information about possible occupational hazards during pregnancy is available from the Health and Safety Executive (www.hse.gov.uk/mothers/index.htm).

GPP - A woman's occupation during pregnancy should be ascertained to identify those at increased risk through occupational exposure.

Nutritional supplements

A - Pregnant women (and those intending to become pregnant) should be informed that dietary supplementation with folic acid, before conception and up to 12 weeks' gestation, reduces the risk of having a baby with neural tube defects (anencephaly, spina bifida). The recommended dose is 400 micrograms per day.

A - Iron supplementation should not be offered routinely to all pregnant women. It does not benefit the mother's or fetus's health and may have unpleasant maternal side effects.

C - Pregnant women should be informed that vitamin A supplementation (intake greater than 700 micrograms) might be teratogenic and therefore it should be avoided. Pregnant women should be informed that as liver and liver products may also contain high levels of vitamin A; consumption of these products should also be avoided.

A - There is insufficient evidence to evaluate the effectiveness of vitamin D in pregnancy. In the absence of evidence of benefit, vitamin D supplementation should not be offered routinely to pregnant women.

Food-acquired infections

D - Pregnant women should be offered information on how to reduce the risk of listeriosis by:

- Drinking only pasteurised or UHT milk

- Not eating mould-ripened soft cheese such as Camembert, Brie, and blue-veined cheese (there is no risk with hard cheeses such as Cheddar, or cottage cheese and processed cheese)
- Not eating pâté (of any sort, including vegetable)
- Not eating uncooked or undercooked ready-prepared meals.

D - Pregnant women should be offered information on how to reduce the risk of salmonella infection by:

- Avoiding raw or partially cooked eggs or food that may contain them (such as mayonnaise)
- Avoiding raw or partially cooked meat, especially poultry.

Prescribed medicines

D - Few medicines have been established as safe to use in pregnancy. Prescription medicines should be used as little as possible during pregnancy and should be limited to circumstances where the benefit outweighs the risk.

Over-the-counter medicines

D - Pregnant women should be informed that few over-the-counter (OTC) medicines have been established as being safe to take in pregnancy. OTC medicines should be used as little as possible during pregnancy.

Complementary therapies

D - Pregnant women should be informed that few complementary therapies have been established as being safe and effective during pregnancy. Women should not assume that such therapies are safe and they should be used as little as possible during pregnancy.

Exercise in pregnancy

A - Pregnant women should be informed that beginning or continuing a moderate course of exercise during pregnancy is not associated with adverse outcomes.

D - Pregnant women should be informed of the potential dangers of certain activities during pregnancy, for example, contact sports, high-impact sports, and vigorous racquet sports that may involve the risk of abdominal trauma, falls, or excessive joint stress, and scuba diving, which may result in fetal birth defects and fetal decompression disease.

Sexual intercourse in pregnancy

B - Pregnant woman should be informed that sexual intercourse in pregnancy is not known to be associated with any adverse outcomes.

Alcohol and smoking in pregnancy

C - Excess alcohol has an adverse effect on the fetus. Therefore it is suggested that women limit alcohol consumption to no more than one standard unit per day. Each of the following constitutes one "unit" of alcohol: a single measure of spirits, one small glass of wine, and a half pint of ordinary strength beer, lager, or cider.

A - Pregnant women should be informed about the specific risks of smoking during pregnancy (such as the risk of having a baby with low birth weight and preterm). The benefits of quitting at any stage should be emphasised.

A - Women who smoke or who have recently stopped should be offered smoking cessation interventions. Interventions that appear to be effective in reducing smoking include advice by physician, group sessions, and behavioural therapy (based on self-help manuals).

B - Women who are unable to quit smoking during pregnancy should be encouraged to reduce smoking.

Cannabis use in pregnancy

C - The direct effects of cannabis on the fetus are uncertain but may be harmful. Cannabis use is associated with smoking, which is known to be harmful; therefore, women should be discouraged from using cannabis during pregnancy.

Air travel during pregnancy

B - Pregnant women should be informed that long-haul air travel is associated with an increased risk of venous thrombosis, although whether or not there is additional risk during pregnancy is unclear. In the general population, wearing correctly fitted compression stockings is effective at reducing the risk.

Car travel during pregnancy

B - Pregnant women should be informed about the correct use of seat belts (that is, three-point seatbelts "above and below the bump, not over it").

Travelling abroad during pregnancy

GPP - Pregnant women should be informed that, if they are planning to travel abroad, they should discuss considerations such as flying, vaccinations, and travel insurance with their midwife or doctor.

Management of Common Symptoms of Pregnancy

Nausea and vomiting in early pregnancy

A - Women should be informed that most cases of nausea and vomiting in pregnancy will resolve spontaneously within 16 to 20 weeks of gestation and that nausea and vomiting are not usually associated with a poor pregnancy outcome. If a woman requests or would like to consider treatment, the following interventions appear to be effective in reducing symptoms:

- Non-pharmacological
    - ginger
    - P6 acupressure
- Pharmacological
    - Antihistamines

GPP - Information about all forms of self-help and non-pharmacological treatments should be made available for pregnant women who have nausea and vomiting.

Heartburn

GPP - Women who present with symptoms of heartburn in pregnancy should be offered information regarding lifestyle and diet modification.

A - Antacids may be offered to women whose heartburn remains troublesome despite lifestyle and diet modification.

Constipation

A - Women who present with constipation in pregnancy should be offered information regarding diet modification, such as bran or wheat fibre supplementation.

Haemorrhoids

GPP - In the absence of evidence of the effectiveness of treatments for haemorrhoids in pregnancy, women should be offered information concerning diet modification. If clinical symptoms remain troublesome, standard haemorrhoid creams should be considered.

Varicose veins

A - Women should be informed that varicose veins are a common symptom of pregnancy that will not cause harm and that compression stockings can improve the symptoms but will not prevent varicose veins from emerging.

Vaginal discharge

GPP - Women should be informed that an increase in vaginal discharge is a common physiological change that occurs during pregnancy. If this is associated with itch, soreness, offensive smell, or pain on passing urine, there may be an infective cause and investigation should be considered.

A - A 1-week course of a topical imidazole is an effective treatment and should be considered for vaginal candidiasis infections in pregnant women.

GPP - The effectiveness and safety of oral treatments for vaginal candidiasis in pregnancy is uncertain and these should not be offered.

Backache

A - Women should be informed that exercising in water, massage therapy, and group or individual back care classes might help to ease backache during pregnancy.

Clinical Examination of Pregnant Women

Measurement of weight and BMI

B - Maternal weight and height should be measured at the first antenatal appointment, and the woman's BMI calculated (weight [kg]/height[m]^2).

C - Repeated weighing during pregnancy should be confined to circumstances where clinical management is likely to be influenced.

Breast examination

A - Routine breast examination during antenatal care is not recommended for the promotion of postnatal breastfeeding.

Pelvic examination

B - Routine antenatal pelvic examination does not accurately assess gestational age, nor does it accurately predict preterm birth or cephalopelvic disproportion. It is not recommended.

Female genital mutilation

C - Pregnant women who have had female genital mutilation should be identified early in antenatal care through sensitive enquiry. Antenatal examination will then allow planning of intrapartum care.

Domestic violence

D - Healthcare professionals need to be alert to the symptoms or signs of domestic violence and women should be given the opportunity to disclose domestic violence in an environment in which they feel secure.

Psychiatric screening

B - Women should be asked early in pregnancy if they have had any previous psychiatric illnesses. Women who have had a past history of serious psychiatric disorder should be referred for a psychiatric assessment during the antenatal period.

A - Pregnant women should not be offered routine screening, such as with the Edinburgh postnatal depression scale (EPDS), in the antenatal period to predict the development of postnatal depression.

A - Pregnant women should not be offered antenatal education interventions to reduce perinatal or postnatal depression, as these interventions have not been shown to be effective.

Screening for Haematological Conditions

Anaemia

B - Pregnant women should be offered screening for anaemia. Screening should take place early in pregnancy (at the first appointment) and at 28 weeks when other blood screening tests are being performed. This allows enough time for treatment if anaemia is detected.

A - Haemoglobin levels outside the normal United Kingdom range for pregnancy (that is, 11 g/dl at first contact and 10.5 g/dl at 28 weeks) should be investigated and iron supplementation considered if indicated.

Blood grouping and red cell alloantibodies

B - Women should be offered testing for blood group and RhD status in early pregnancy.

NICE 2002 - It is recommended that routine antenatal anti-D prophylaxis is offered to all non-sensitised pregnant women who are RhD negative.

B - Women should be screened for atypical red cell alloantibodies in early pregnancy and again at 28 weeks regardless of their RhD status.

D - Pregnant women with clinically significant atypical red cell alloantibodies should be offered referral to a specialist centre for further investigation and advice on subsequent antenatal management.

GPP - If a pregnant woman is RhD-negative, consideration should be given to offering partner testing to determine whether the administration of anti-D prophylaxis is necessary.

Screening for Fetal Anomalies

Screening for structural anomalies

A - Pregnant women should be offered an ultrasound scan to screen for structural anomalies, ideally between 18 and 20 weeks' gestation, by an appropriately trained sonographer and with equipment of an appropriate standard as outlined by the National Screening Committee.

Screening for Down's syndrome

B - Pregnant women should be offered screening for Down's syndrome with a test that provides the current standard of a detection rate above 60% and a false-positive rate of less than 5%. The following tests meet this standard:

- From 11 to 14 weeks
    - nuchal translucency (NT)
    - the combined test (NT, human chorionic gonadotrophin [hCG], and plasma protein A [PAPP-A])
- From 14 to 20 weeks
    - the triple test (hCG, alpha-fetoprotein [AFP] and unconjugated oestriol [uE3])
    - the quadruple test (hCG, AFP, uE3, inhibin A)
- From 11 to 14 weeks and 14 to 20 weeks
    - the integrated test (NT, PAPP-A + hCG, AFP, uE3, inhibin A)
    - the serum integrated test (PAPP-A + hCG, AFP, uE3, inhibin A).

B - By April 2007, pregnant women should be offered screening for Down's syndrome with a test which provides a detection rate above 75% and a false-positive rate of less than 3%. These performance measures should be age-standardised and based on a cutoff of 1 in 250 at term. The following tests currently meet this standard:

- From 11 to 14 weeks
    - the combined test (NT, hCG and PAPP-A)
- From 14 to 20 weeks
    - the quadruple test (hCG, AFP, uE3, inhibin A)
- From 11 to 14 weeks and 14 to 20 weeks
    - the integrated test (NT, PAPP-A + hCG, AFP, uE3, inhibin A)
    - the serum integrated test (PAPP-A + hCG, AFP, uE3, inhibin A).

D - Pregnant women should be given information about the detection rates and false-positive rates of any Down's syndrome screening test being offered and about further diagnostic tests that may be offered. The woman's right to accept or decline the test should be made clear.

Screening for Infections

Asymptomatic bacteriuria

A - Pregnant women should be offered routine screening for asymptomatic bacteriuria by midstream urine culture early in pregnancy. Identification and treatment of asymptomatic bacteriuria reduces the risk of preterm birth.

Asymptomatic bacterial vaginosis

A - Pregnant women should not be offered routine screening for bacterial vaginosis because the evidence suggests that the identification and treatment of asymptomatic bacterial vaginosis does not lower the risk for preterm birth and other adverse reproductive outcomes.

Chlamydia trachomatis

C - Pregnant women should not be offered routine screening for asymptomatic chlamydia because there is insufficient evidence on its effectiveness and cost

effectiveness. However, this policy is likely to change with the implementation of the national opportunistic chlamydia screening programme.

Cytomegalovirus

C - The available evidence does not support routine cytomegalovirus screening in pregnant women and it should not be offered.

HBV

A - Serological screening for hepatitis B should be offered to pregnant women so that effective postnatal intervention can be offered to infected women to decrease the risk of mother-to-child transmission.

Hepatitis C virus

C - Pregnant women should not be offered routine screening for hepatitis C virus because there is insufficient evidence on its effectiveness and cost effectiveness.

HIV

A - Pregnant women should be offered screening for HIV infection early in antenatal care because appropriate antenatal interventions can reduce mother-to-child transmission of HIV infection.

D - A system of clear referral paths should be established in each unit or department so that pregnant women who are diagnosed with an HIV infection are managed and treated by the appropriate specialist teams.

Rubella

B - Rubella-susceptibility screening should be offered early in antenatal care to identify women at risk of contracting rubella infection and to enable vaccination in the postnatal period for the protection of future pregnancies.

Streptococcus group B

C - Pregnant women should not be offered routine antenatal screening for group B streptococcus (GBS) because evidence of its clinical effectiveness and cost effectiveness remains uncertain.

Syphilis

B - Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and fetus.

GPP - Because syphilis is a rare condition in the UK and a positive result does not necessarily mean that a woman has syphilis, clear paths of referral for the management of women testing positive for syphilis should be established.

Toxoplasmosis

B - Routine antenatal serological screening for toxoplasmosis should not be offered because the harms of screening may outweigh the potential benefits.

C - Pregnant women should be informed of primary prevention measures to avoid toxoplasmosis infection, such as:

- Washing hands before handling food
- Thoroughly washing all fruit and vegetables, including ready-prepared salads, before eating
- Thoroughly cooking raw meats and ready-prepared chilled meals
- Wearing gloves and thoroughly washing hands after handling soil and gardening
- Avoiding cat faeces in cat litter or in soil

Screening for Clinical Conditions

Gestational diabetes mellitus

B - The evidence does not support routine screening for gestational diabetes mellitus and therefore it should not be offered.

Preeclampsia

C - At first contact a woman's level of risk for preeclampsia should be evaluated so that a plan for her subsequent schedule of antenatal appointments can be formulated. The likelihood of developing preeclampsia during a pregnancy is increased in women who:

- Are nulliparous
- Are aged 40 or older
- Have a family history of preeclampsia (for example, preeclampsia in a mother or sister)
- Have a prior history of preeclampsia
- Have a BMI at or above 35 at first contact
- Have a multiple pregnancy or preexisting vascular disease (for example, hypertension or diabetes)

C - Whenever blood pressure is measured in pregnancy, a urine sample should be tested at the same time for proteinuria.

C - Standardised equipment, techniques, and conditions for blood-pressure measurement should be used by all personnel whenever blood pressure is measured in the antenatal period so that valid comparisons can be made.

D - Pregnant women should be informed of the symptoms of advanced preeclampsia because these may be associated with poorer pregnancy outcomes for the mother or baby. Symptoms include headache; problems with vision, such as blurring or flashing before the eyes; bad pain just below the ribs; vomiting; and sudden swelling of face, hands, or feet.

Preterm birth

A - Routine vaginal examination to assess the cervix is not an effective method of predicting preterm birth and should not be offered.

B - Although cervical shortening identified by transvaginal ultrasound examination and increased levels of fetal fibronectin are associated with an increased risk for preterm birth, the evidence does not indicate that this information improves outcomes; therefore, neither routine antenatal cervical assessment by transvaginal ultrasound nor the measurement of fetal fibronectin should be used to predict preterm birth in healthy pregnant women.

Placenta praevia

C - Because most low-lying placentas detected at a 20-week anomaly scan will resolve by the time the baby is born, only a woman whose placenta extends over the internal cervical os should be offered another transabdominal scan at 36 weeks. If the transabdominal scan is unclear, a transvaginal scan should be offered.

Fetal Growth and Well-being

Abdominal palpation for fetal presentation

C - Fetal presentation should be assessed by abdominal palpation at 36 weeks or later, when presentation is likely to influence the plans for the birth. Routine assessment of presentation by abdominal palpation should not be offered before 36 weeks because it is not always accurate and may be uncomfortable.

GPP - Suspected fetal malpresentation should be confirmed by an ultrasound assessment.

Measurement of symphysis-fundal distance

A - Pregnant women should be offered estimation of fetal size at each antenatal appointment to detect small- or large-for-gestational- age infants.

GPP - Symphysis–fundal height should be measured and plotted at each antenatal appointment.

Routine monitoring of fetal movements

A - Routine formal fetal-movement counting should not be offered.

Auscultation of fetal heart

D - Auscultation of the fetal heart may confirm that the fetus is alive but is unlikely to have any predictive value and routine listening is therefore not recommended. However, when requested by the mother, auscultation of the fetal heart may provide reassurance.

Cardiotocography

A - The evidence does not support the routine use of antenatal electronic fetal heart rate monitoring (cardiotocography) for fetal assessment in women with an uncomplicated pregnancy and therefore it should not be offered.

Ultrasound assessment in the third trimester

A - The evidence does not support the routine use of ultrasound scanning after 24 weeks' gestation and therefore it should not be offered.

Umbilical and uterine artery Doppler ultrasound

A - The use of umbilical artery Doppler ultrasound for the prediction of fetal growth restriction should not be offered routinely.

B - The use of uterine artery Doppler ultrasound for the prediction of preeclampsia should not be offered routinely.

Management of Specific Clinical Conditions

Pregnancy after 41 weeks

(See also the section above titled "Gestational age assessment: LMP and ultrasound")

A - Prior to formal induction of labour, women should be offered a vaginal examination for membrane sweeping.

A - Women with uncomplicated pregnancies should be offered induction of labour beyond 41 weeks.

GPP - From 42 weeks, women who decline induction of labour should be offered increased antenatal monitoring consisting of at least twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth.

Breech presentation at term

A - All women who have an uncomplicated singleton breech pregnancy at 36 weeks' gestation should be offered external cephalic version (ECV). Exceptions include women in labour and women with a uterine scar or abnormality; fetal compromise; ruptured membranes; vaginal bleeding; and medical conditions.

GPP - Where it is not possible to schedule an appointment for ECV at 37 weeks' gestation, it should be scheduled at 36 weeks.

Definitions

Evidence Categories

1a: Evidence obtained from systematic review and meta-analysis of randomised controlled trials

1b: Evidence obtained from at least one randomized controlled trial

2a: Evidence obtained from at least one well-designed controlled study without randomization

2b: Evidence obtained from at least one other type of well-designed quasi-experimental study

3: Evidence obtained from well-designed nonexperimental descriptive studies, such as comparative studies, correlation studies or case studies

4: Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

Grading of Recommendations

A: Directly based on level I evidence

B: Directly based on level II evidence or extrapolated recommendation from level I evidence

C: Directly based on level III evidence or extrapolated recommendation from either level I or II evidence

D: Directly based on level IV evidence or extrapolated recommendation from either level I, II, or III evidence

Good practice point (GPP): The view of the Guideline Development Group (GDG)

National Institute for Clinical Excellence (NICE) 2002: Recommendation taken from the NICE Technology Appraisal.

CLINICAL ALGORITHM(S)

A clinical algorithm is provided for the routine care for the healthy pregnant woman.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- The provision of appropriate, cost-effective care to healthy women with uncomplicated singleton pregnancies.
- Early detection and referral for treatment of complications of pregnancy may improve pregnancy outcomes.
- Access to information and provision of care by the same small group of people are key aspects of care that lend themselves to a pregnant woman feeling valued as an individual and more in control.

POTENTIAL HARMS

None stated

CONTRAINDICATIONS

CONTRAINDICATIONS

- Vitamin A supplementation should be avoided during pregnancy because of its teratogenic potential.
- Live vaccines are generally contraindicated during pregnancy because of largely theoretical risks to the fetus. Measles, mumps, rubella, bacillus Calmette-Guerin (BCG), and yellow fever vaccines should be avoided in pregnancy.
- Doxycycline is contraindicated during pregnancy. Proguanil hydrochloride with atovaquone (Malarone®, GSK) should be avoided during pregnancy unless there is no suitable alternative.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- The guideline will not produce standards for service configuration, which are being addressed by the Children's National Service Frameworks (England and Wales), nor will it address quality standard issues (such as laboratory standards), which are addressed by the National Screening Committee.
- Although the guideline addresses screening for many of the complications of pregnancy, it does not include information on the investigation and appropriate ongoing management of these complications if they arise in pregnancy (for example, the management of preeclampsia, fetal anomalies, and multiple pregnancies).
- Any aspect of intrapartum and postpartum care has not been included in this guideline. This includes preparation for birth and parenthood, risk factor assessment for intrapartum care, breastfeeding, and postnatal depression. These topics will be addressed in future National Institute for Clinical Excellence (NICE) guidelines on intrapartum and postpartum care.
- The guideline offers recommendations on baseline clinical care for all pregnant women, but it does not offer information on the additional care that

some women will require. See the original guideline document for a listing of the conditions in pregnancy that require care additional to that detailed in this guideline.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation in the National Health Service (NHS)

Local health communities should review their existing practice for routine antenatal care against this guideline as they develop their Local Delivery Plans. The review should consider the resources required to implement the recommendations, the people and processes involved, and the timeline over which full implementation is envisaged. It is in the interests of pregnant women that the implementation timeline is as rapid as possible.

Relevant local clinical guidelines, care pathways and protocols should be reviewed in the light of this guidance and revised accordingly.

This guideline should be used in conjunction with the Children's National Service Frameworks (England and Wales); for more information, see www.doh.gov.uk/nsf/children.htm (England) and http://rms.nelh.nhs.uk/screening/viewResource.asp?categoryID=1328&uri=http%3A//libraries.nelh.nhs.uk/common/resources/%3Fid%3D60285.

A complete list of the National Screening Committee's criteria for screening can be found in its online library (www.nsc.nhs.uk/library/lib_ind.htm) under the title The UK National Screening Committee's criteria for appraising the viability, effectiveness and appropriateness of a screening programme.

To enable healthcare professionals to audit their own compliance with this guideline, it is recommended that, if not already in place, pregnancy management plans are recorded for each woman. This information should be incorporated into local clinical-audit-data-recording systems, and consideration given (if not already in place) to the establishment of appropriate categories in electronic record systems.

Prospective clinical audit programmes should record the proportion of patients whose treatment and care adheres to the guideline. Such programmes are likely to be more effective in improving patient care when they form part of the organisation's clinical governance arrangements and when they are linked to specific postgraduate activities.

Suggested audit criteria are listed in the original guideline document. These can be used as the basis for local clinical audit, at the discretion of those in practice.

IMPLEMENTATION TOOLS

Clinical Algorithm
Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness
Timeliness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

National Collaborating Centre for Women's and Children's Health. Antenatal care: routine care for the healthy pregnant woman. London: RCOG Press; 2003 Oct. 286 p. [631 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

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GUIDELINE DEVELOPER(S)

National Collaborating Centre for Women's and Children's Health - National Government Agency [Non-U.S.]

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GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

In accordance with the National Institute for Clinical Excellence (NICE) guideline development process, all guideline development group members have made and updated any declarations of interest.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Royal College of Obstetricians and Gynaecologists (RCOG) Web site.

Print copies: Available from the National Collaborating Centre for Women's and Children's Health (NCC-WCH), 27 Sussex Place, Regent's Park, London NW1 4RG

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- National Collaborating Centre for Women's and Children's Health. Antenatal care: routine care for the healthy pregnant woman. Summary. 2003 Oct. 41 p. Available from the Royal College of Obstetricians and Gynaecologists (RCOG) Web site.

Print copies: Available from the National Collaborating Centre for Women's and Children's Health (NCC-WCH), 27 Sussex Place, Regent's Park, London NW1 4RG

PATIENT RESOURCES

The following is available:

- Routine antenatal care for healthy pregnant women. Understanding NICE guidance – information for pregnant women, their families and the public. 2003 Oct. 39 p. Available from the Royal College of Obstetricians and Gynaecologists (RCOG) Web site.

Print copies: Available from the National Collaborating Centre for Women's and Children's Health (NCC-WCH), 27 Sussex Place, Regent's Park, London NW1 4RG

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

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